

HOW OIL CLOTH IS MADE.

The *Polytechnic Review* has been looking into the manufacture of oil cloth, and from the results of its investigations we take a general description of the process, which we believe will be interesting to all readers: The oil cloth, so called, as used for floor covering, consists of strong jute cloth ("burlap") covered with mineral colors ground in oil. The burlaps weigh from 9 ounces to 12 ounces per square yard. Their open texture must be filled up, and a smooth, heavy ground color put on before the reception of the pattern. For best quality goods, from six to eight coats of ochre and whiting, ground in linseed oil, are applied. The cloth for third quality goods is "starched" with a glue size as a priming coat, receiving afterward several coats of oil color. The "painting machine" is primitive in construction, but rapid and effectual in operation: it is used for either starching or grounding with oil. The 50-yard roll is attached by hooks to the base of a wooden triangle, and a rope attached to the apex of the triangle drags the roll through the painter and along a drying rack. The paint is applied with a dipper, and is spread by the cloth passing between an oil cloth cushion and a steel knife edge, slanting in the direction of motion. Fifty lineal yards a minute can be printed: in all from 8,000 to 10,000 yards in the various grades are daily printed in the whole establishment. After each of the first four coats of oil color, the goods must be "shaved," as the fibers of burlap make the surface somewhat fuzzy and uneven. The "shaving" machine has a table over which the cloth is passed, lightly stretched, while two bars, each bearing two pumice stone "bricks" (or more according to width), scrub the surface with a longitudinal and traversing motion, imitating hand-scrubbing. The pumice stone rubbing gives a fine, even surface; and after the last ground coat, the pattern or color blocks may be applied. The blocks employed in printing are similar to those used in wall-paper printing, being maple blocks, one cut for each color. These blocks are either in peg-work, line-work or rule work. The first are made by sawing the blocks lengthwise and crosswise with a circular saw (leaving square "pegs" projecting), and then cutting away those portions not intended to print. The line work has its design in parallel lines only. The brass or copper blocks have the design traced in the flat block, and then sharp brass rules driven into the required outlines. Peg-work is repaired by driving in copper wire cut square at one end and sharp at the other. Line-work is repaired by brass rules driven in. The felt filling used between the rules of some wall-paper blocks is not here employed, as preventing proper impression. For mat-work the block embraces one-fourth of the pattern, and must be of such a character as to admit being turned to print successive corner quarters. After all the single color impressions have been given, one block, called the "masher," which has no color applied to it, and which has on it the whole pattern, is applied, and given a strong impression. After printing, drying is in order, and should last at least 10 days. The older oil cloth is, the better, as the paint hardens. "Dryers" injuriously affect the linseed oil; air drying is preferable, but the American market cannot afford it. In England, a piece of oil cloth is frequently six months in making; here it is generally but 30 days. The heat is graduated to 130° F., running up from 90°. The principal pigments employed are vermilion, drop black, Venetian red, Sienna, chrome yellows, white lead and umbers. After printing and drying, varnishing is in order, copal varnishes being sprinkled on the roll and distributed by two vibrating arms, each bearing five soft brushes. The roll is handled by means of the triangle and drag rope, and hauled through and into the drying racks.

PUMPHREY'S PATENT LETTER BINDER.—Readers desirous of obtaining a good reading case for the *MECHANICS' MAGAZINE*, or other journals, loose papers, accounts, and the like, should obtain a new letter-binder, just issued by Mr. J. Pumphrey, of Broad-street, Birmingham, which is the simplest and most durable we have seen. From the illustration it will be perceived that there are no springs used, a metal hinge in the back of the book forms a fulcrum by which the papers are put into their place, and by the use of movable pins and metal sheaths, the papers when so collated are removable to loose covers, where they are securely enveloped and conveniently placed for reference. There are no loose strings or wires to get mislaid or out of order, as in other binders; the case is complete in itself, and the mere act of closing the covers secures the loose papers as they are added.

CURE FOR CHILBLAINS.—There is nothing better than extract of lead. Take of acetate of lead, 5 oz.; litharge, in powder, 3½ oz.; distilled water, 1 pint, or a sufficiency. Boil the acetate of lead and the litharge in the water for half an hour, constantly stirring, then filter, and when the liquid is cold add to it more distilled water, until the product measures 20 fluid ounces. Keep the clear solution in stoppered bottles. Use it thus: Soak the part on which the chilblain is situated for a short time in warm water, gently dry with a soft cloth, and having well wetted a double-fold of lint with the extract of lead, envelope the chilblain entirely in it, and as the lint becomes dry let it be re-wetted in the same manner, and re-applied two or three times, or oftener, if requisite. One or two applications will remove all inflammatory action.

HOW TO WELD CAST STEEL.—Take borax and sal-ammoniac, pound them up fine, put into an iron ladle, and slowly melt. Skim off all the spume which arises. When quite clear, let it cool, and then pound into fine powder. Split end of one of the pieces of steel, taper the end of the other, and fit it in as in steeling a pick-axe. Now, take a nice mild heat, and use your powder as you would sand to wrought iron or shear steel. Watch until you see it run on the joint like melted glass, whip out of fire, and strike gently, and you will succeed in welding it.

A CORRESPONDENT in reply to a question, how to keep gold fish? says: If the fish have plenty of fresh river water (often changed) they require little or no food, but I should prefer to give them some. Small worms which are common to the water suffice for their food in general; but the Chinese, who bring gold fish to perfection, throw small balls of paste into the water, of which the fish are very fond. They also give them lean pork, dried in the sun, and reduced to fine powder. They like bread and biscuit, but care must be taken not to give too much at a time lest, turning sour, it corrupts the water. They will live on the aquatic plant, called lemna or duck's weed. Hawkins, the editor of *Walton*, says that fine gravel should be strewn at the bottom of the vessel which contains them, and he directs them to be fed on bread and gentles, and to have their water frequently changed.

POISONING BY PARIS GREEN.—ANTIDOTE.—Paris Green is so deadly a poison that the utmost care should be taken to prevent accident, and every one should know what to do in case poison has been taken into the stomach. There is but one tolerably certain antidote, the freshly prepared *Hydrated Peroxide of Iron*, or *Ferric Hydrate*. This cannot be kept on hand long, as it soon changes and becomes inert. All well managed drug stores keep on hand the means of preparing it at once. In case of poisoning by Paris Green or any other form of arsenic give an emetic. Mustard is always at hand; give two tablespoonfuls of *Ground Mustard* stirred in a quart of luke-warm *Water*.—Drink freely, tickling the throat with the finger to induce vomiting. When the stomach is emptied, give *Calomel Magnesia* in tablespoonful doses, stirred in milk, repeating every 15 minutes. When the vomiting ceases, give a large dose of Castor Oil. But send first to the nearest physician, and also to the nearest apothecary for *Hydrated Peroxide of Iron*; the doctor will want it; if he is not present, give it in tablespoonful doses every 10 or 15 minutes until the patient is relieved. It is in the form of pulp like Indian-red paint. No harm can come from giving too much. When the doctor comes, follow his directions.

A \$502 DOLLAR ROOSTER.—That famous \$50,000 cow which was so much talked about in this country a few years ago, has found a rival in point of proportionate pecuniary worth in a \$502 chicken. The *English Agricultural Gazette* says that a game cock was recently sold for the above excessive price, and suggests that in the future the raising of such chickens would prove a very lucrative source of income. The same journal, we notice, says that over \$13,000,000 worth of eggs were imported into England in 1876, and yet the supply was short of the demand. Here is an opening for poultrymen, and a wider field for inventors of egg-preserving processes and egg-carrying devices.

NEW USE FOR FLOUR.—A foreign contemporary says that a composition of very thin flour paste, thickened with clean sawdust, makes a very good coating for steam pipes and boilers, to prevent loss of heat. It adheres very firmly to iron, but on brass or copper it is necessary to apply a very thin coating of fuller's earth, when the paste will adhere with sufficient tenacity. Out of doors it is advisable to give a few coats of coal tar after the necessary number of coats of sawdust paste, in order to make the covering water-proof. About five coats of paste will be found sufficient, and each should be allowed to dry perfectly before the next is applied.